

(4) Have sufficient strength to check the vessel; and

(5) Be arranged so that they may be led to either side of the vessel as required.

(6) Be certified and a test certificate for each mooring line containing information on breaking strength, material type, elongation and diameter shall be available onboard for inspection.

(b) Unless otherwise permitted by an officer, vessels greater than 150 m shall only use wire mooring lines with a breaking strength that complies with the minimum specifications set out in the table to this section shall be used for securing a vessel in lock chambers.

(c) Synthetic lines must be used for mooring at approach walls when using tie-up services at tie-up walls and docks within the Seaway.

(d) Notwithstanding paragraphs (a) through (c) of this section, nylon line is not permitted.

TABLE

Overall length of ships	Length of mooring line	Breaking strength
40 m or more but not more than 60 m.	110 m	10 MT
More than 60 m but not more than 90 m.	110 m	15 MT
More than 90 m but not more than 120 m.	110 m	20 MT
More than 120 m but not more than 180 m.	110 m	28 MT
More than 180 m but not more than 222.5 m.	110 m	35 MT

Elongation of synthetic lines shall not exceed 20%

(e) Hand held synthetic lines if permitted by the Manager or Corporation shall meet the criteria in paragraph (a) of this section and shall have a minimum length of not less than 65 meters.

(68 Stat. 93-96, 33 U.S.C. 981-990, as amended and sec. 4, 5, 6, 7, 8, 12 and 13 of sec. 2 of Pub. L. 95-474, 92 Stat. 1471)

[39 FR 10900, Mar. 22, 1974, as amended at 47 FR 51121, Nov. 12, 1982; 48 FR 20691, May 9, 1983; 48 FR 22545, May 19, 1983; 61 FR 19551, May 2, 1996; 65 FR 52913, Aug. 31, 2000; 70 FR 12970, Mar. 17, 2005; 74 FR 18994, Apr. 27, 2009; 75 FR 10689, Mar. 9, 2010; 78 FR 16181, Mar. 14, 2013; 79 FR 12659, Mar. 6, 2014]

§ 401.11 Fairleads.

(a) Mooring lines shall:

(1) Be led at the vessel's side through a type of fairlead or closed chock, ac-

ceptable to the Manager and Corporation;

(2) Pass through not more than three inboard rollers that are fixed in place and equipped with horns to ensure that lines will not slip off when slackened and provided with free-running sheaves or rollers; and

(3) Where the fairleads are mounted flush with the hull, be permanently fendered to prevent the lines from being pinched between the vessel and a wall.

(4) When passing synthetic lines through a type of fairlead or closed chock acceptable to the Manager and the Corporation all sharp edges of the fairlead, closed chock and/or bulwark shall be rounded to protect the line from chafing or breakage.

(b) Wire lines shall only be led through approved roller type fairleads.

[39 FR 10900, Mar. 22, 1974, as amended at 70 FR 12971, Mar. 17, 2005; 74 FR 18994, Apr. 27, 2009; 76 FR 13089, Mar. 10, 2011; 77 FR 40804, July 11, 2012]

§ 401.12 Minimum requirements—mooring lines and fairleads.

(a) Unless otherwise permitted by the officer the minimum requirements in respect of mooring lines which shall be available for securing on either side of the vessels, winches and the location of fairleads on vessels are as follows:

(1) Vessels of more than 100 m but not more than 150 m in overall length shall have three mooring lines—wires or synthetic hawsers, which shall be independently power operated by winches, capstans or windlasses. All lines shall be led through closed chocks or fairleads acceptable to the Manager and the Corporation.

(i) One shall lead forward and one shall lead astern from the break of the bow and one lead astern from the quarter.

(ii) One synthetic hawser may be hand held or if wire line is used shall be powered. The line shall lead astern from the break of the bow through a closed chock to suitable bitts on deck for synthetic line or led from a capstan, winch drum or windlass to an approved fairlead for a wire line.

(2) Vessels of more than 150 m in overall length shall have four mooring

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lines—wires, independently power operated by the main drums of adequate power operated winches as follows:

(i) One mooring line shall lead forward and one mooring line shall lead astern from the break of the bow.

(ii) One mooring line shall lead forward and one mooring line shall lead astern from the quarter.

(3) Vessels of more than 150 m in overall length shall have four mooring lines—wires, independently power operated by the main drums of adequate power operated winches as follows:

(i) One mooring line shall lead forward and one mooring line shall lead astern from the break of the bow and shall be independently power operated by the main drums of adequate power operated winches; and

(ii) One mooring line shall lead forward and one mooring line shall lead astern from the quarter and shall be independently power operated by the main drums of adequate power operated winches.

(iii) All lines shall be led through a type of fairlead acceptable to the Manager and the Corporation.

(b) Unless otherwise permitted by the officer, the following table sets out the requirements for the location of fairleads or closed chocks for vessels of 100 m or more in overall length:

TABLE

Overall length of ships	For mooring lines Nos. 1 and 2	For mooring lines Nos. 3 and 4
100 m or more but not more than 180 m.	Shall be at a location on the ship side where the beam is at least 90% of the full beam of the vessel.	Shall be at a location on the ship side where the beam is at least 90% of the full beam of the vessel.
More than 180 m but not more than 222.5 m.	Between 20 m & 50 m from the stern.	Between 20 m & 50 m from the stern.

[74 FR 18994, Apr. 27, 2009, as amended at 75 FR 10689, Mar. 9, 2010; 76 FR 13089, Mar. 10, 2011; 77 FR 40804, July 11, 2012]

§ 401.13 Hand lines.

Hand lines shall:

(a) Be made of material acceptable to the Manager and the Corporation;

(b) Be of uniform thickness and have a diameter of not less than 12 mm and not more than 17 mm and a minimum

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length of 30 m. The ends of the lines shall be back spliced or tapered; and

(c) Not be weighted or have knotted ends.

[70 FR 12971, Mar. 17, 2005, as amended at 79 FR 12659, Mar. 6, 2014]

§ 401.14 Anchor marking buoys.

(a) Every vessel shall have its anchors cleared and have the anchor marking buoys free to deploy (weak link to hold buoy line on board) with the buoy lines firmly secured to each anchor and ready to be released prior to entering the Seaway.

(b) Every vessel shall deploy the anchor marking buoy when dropping an anchor in Seaway waters.

[79 FR 12659, Mar. 6, 2014]

§ 401.15 Stern anchors.

(a) Every vessel of more than 125 m in overall length, the keel of which is laid after January 1, 1975, shall be equipped with a stern anchor.

(b) Every integrated tug and barge or articulated tug and barge unit greater than 125 m in overall length which is constructed after January 1, 2003 shall be equipped with a stern anchor.

[77 FR 40804, July 11, 2012]

§ 401.16 Propeller direction alarms.

Every vessel of 1600 gross registered tons or integrated tug and barge or articulated tug and barge unit of combined 1600 gross registered tons or more shall be equipped with—

(a) Propeller direction and shaft r.p.m. indicators located in the wheelhouse and the engine room; and

(b) Visible and audible wrong-way propeller direction alarms, with a time delay of not greater than 8 seconds, located in the wheelhouse and the engineer room, unless the vessel is fitted with a device which renders it impossible to operate engines against orders from the bridge telegraph.

(68 Stat. 93–96, 33 U.S.C. 981–990, as amended and secs. 4, 5, 6, 7, 8, 12 and 13 of sec. 2 of Pub. L. 95–474, 92 Stat. 1471)

[41 FR 12227, Mar. 24, 1976, as amended at 45 FR 52378, Aug. 7, 1980; 70 FR 12971, Mar. 17, 2005; 71 FR 5606, Feb. 2, 2006]